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PETITION FEE
Under 37 CFR 1.17(f), (g) & (h)

TRANSMITTAL

(Fees are subject to annual revision)

Send completed form to: Commissioner for Patents
P.O. Box 1450, Alexandria, VA 22313-1450

Application Number	10/766,850
Filing Date	January 30, 2004
First Named Inventor	Satoru OZAKI et al.
Art Unit	2186
Examiner Name	Not yet assigned
Attorney Docket Number	1309.43448X00

Enclosed is a petition filed under 37 CFR 1.102(d) that requires a processing fee (37 CFR 1.17(f), (g), or (h)). Payment of \$ 130.00 is enclosed.

This form should be included with the above-mentioned petition and faxed or mailed to the Office using the appropriate Mail Stop (e.g., Mail Stop Petition), if applicable. For transmittal of processing fees under 37 CFR 1.17(i), see form PTO/SB/17i.

Payment of Fees (small entity amounts are NOT available for the petition (fees))

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Petition Fees under 37 CFR 1.17(f): Fee \$400 Fee Code 1462

For petitions filed under:

- § 1.53(e) - to accord a filing date.
- § 1.57(a) - to according a filing date.
- § 1.182 - for decision on a question not specifically provided for.
- § 1.183 - to suspend the rules.
- § 1.378(e) for reconsideration of decision on petition refusing to accept delayed payment of maintenance fee in an expired patent.
- § 1.741(b) - to accord a filing date to an application under § 1.740 for extension of a patent term.

Petition Fees under 37 CFR 1.17(g): Fee \$200 Fee code 1463

For petitions filed under:

- §1.12 - for access to an assignment record.
- §1.14 - for access to an application.
- §1.47 - for filing by other than all the inventors or a person not the inventor.
- §1.59 - for expungement of information.
- §1.103(a) - to suspend action in an application.
- §1.136(b) - for review of a request for extension of time when the provisions of section 1.136(a) are not available.
- §1.295 - for review of refusal to publish a statutory invention registration.
- §1.296 - to withdraw a request for publication of a statutory invention registration filed on or after the date the notice of intent to publish issued.
- §1.377 - for review of decision refusing to accept and record payment of a maintenance fee filed prior to expiration of a patent.
- §1.550(c) - for patent owner requests for extension of time in ex parte reexamination proceedings.
- §1.956 - for patent owner requests for extension of time in inter partes reexamination proceedings.
- § 5.12 - for expedited handling of a foreign filing license.
- § 5.15 - for changing the scope of a license.
- § 5.25 - for retroactive license.

Petition Fees under 37 CFR 1.17(h): Fee \$130 Fee Code 1464

For petitions filed under:

- §1.19(g) - to request documents in a form other than that provided in this part.
- §1.84 - for accepting color drawings or photographs.
- §1.91 - for entry of a model or exhibit.
- §1.102(d) - to make an application special.
- §1.138(c) - to expressly abandon an application to avoid publication.
- §1.313 - to withdraw an application from issue.
- §1.314 - to defer issuance of a patent.

Name (Print/Type)	Frederick D. Bailey	Registration No. (Attorney/Agent)	42,282
Signature		Date	March 31, 2005

This collection of information is required by 37 CFR 1.114. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



1309.43448X00

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicants: Satoru OZAKI et al.

Serial No.: 10/766,850

Filed: January 30, 2004

For: STORAGE SYSTEM, STORAGE CONTROL DEVICE, AND DATA
RELAY METHOD USING STORAGE CONTROL DEVICE

**PETITION TO MAKE SPECIAL
UNDER 37 CFR 1.102(d) and MPEP. §708.02, VIII**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

March 31, 2005

Sir:

1. Petition

Applicants hereby petition to make this application **Special**, in accordance with 37 CFR §1.102(d) and MPEP 708.02, VIII. The present invention is a new application filed in the United States Patent and Trademark Office on January 30, 2004 and as such has not received any examination by the Examiner.

2. Claims

Applicants hereby represent that all the claims in the present application are directed to a single invention. If upon examination it is determined that all the claims presented are not directed to a single invention, Applicants will make an election without traverse as a prerequisite to the granting of special status.

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3. Search

Applicants hereby submit that a pre-examination search has been made by a professional searcher, (a copy of which is attached), in the following classes and subclasses:

<u>Class</u>	<u>Subclass</u>
707	1, 200, 202
709	202
711	113, 114, 165, 203

4. Copy of References

A listing of all references found by the professional searcher is provided on a Form PTO-1449 and copies of the references and the Form PTO-1449 are submitted as part of an Information Disclosure Statement (IDS) filed on even date.

5. Detailed Discussion of the References and Distinctions Between the References and the Claims

Below is a discussion of the references uncovered by the search and cited in the IDS filed on even date that appear to be most closely related to the subject matter encompassed by the claims of the present application, and which discussion particularly points out how Applicants' claimed subject matter is distinguishable over those references. All other references uncovered by the search and cited in the IDS filed on even date are **not** treated in detail herein.

a. Detailed Discussion of the References

U.S. Patent No. 6,389,420 B1 (Vahalia et al.), assigned to EMC Corp., is entitled File Manager Providing Distributed Locking and Metadata Management for Shard Data Access by Clients Relinquishing Locks after Time Period Expiration and discloses a first file manager **31** for relaying the metadata to a first client **38**. A second file manager **32** relays the metadata to a second client **38** (see, figures 1-2; and column 6, lines 44-66).

U.S. Patent Publication No. 2003/0110157 A1 (Maki et al.) is entitled Exclusive Access Control Apparatus and Method and discloses a relay device **1100** connected to each of a plurality of computers **1000** and one or a plurality of storage devices **1800** (via communication paths **1110** and **1130**). A general virtual configuration information table **1616** (of the relay device) is used to set a virtual volume in a relationship with an actual storage area (real volume) within a storage device (see, figures 1, 11; and paragraphs 22, 29, 31, 32, and 35).

U.S. Patent Publication No. 2004/0006587 A1 (McConnell et al.), assigned to Dell Products, L.P., is entitled Information Handling System and Method for Clustering with Internal Cross Coupled Storage and discloses a plurality of nodes using virtual quorum **220/225** in each node. Each node has an internal storage facility. The virtual quorums **220/225** receive storage commands that are processed by a mirror agent **245** in each node. Each mirror agent **245** relays storage commands to internal storages **294/298** of each node (the servers **308**) (see, figures 1-2; and paragraphs 6, 17, and

20-21).

U.S. Patent No. 2004/0186898 A1 (Kimura et al.) is entitled Control of Storage and Read of Data on Mass Storage Device and discloses a node device **200** functioning to relay the data between a storage device **300** and a computer **100**. In the node device **200**, a CPU **201** performs relay control and cache control of the data according to a control program. Virtual volumes **VC_a** and **VC_b** (corresponding to clients **100a -100b**) are defined in the node device **200**. The virtual volume **VC_a** is allocated to a specific volume **PC_a** and a share volume **PC_c**. The virtual volume **VC_b** is allocated to a specific volume **PC_b** and the share volume **PC_c** (see, figures 2, 6; and paragraphs 11, 13, 14, 24-25, 50, 51, 56, 57, and 58).

U.S. Patent Publication No. 2004/0205145 A1 (Murakami) is entitled Data Transfer Method and discloses a switch **100** as a relay device connected to storage devices (**180A**, **180B**, and **180C**). A table area **503** includes a volume management table **507** related to a real/virtual volume management **506**. Table **1200** manages a state of a logical unit in a virtual volume (see, figures 1, 4-5, 9, 11; and paragraphs 7-9, 12, 14, 16, 37, 38, 40, 41, 47, 68, 72, 74, and 99).

b. Distinctions Between the References and the Claims

The present invention as recited in the claims filed are not taught or suggested by any of the above noted references whether taken individually or in

combination with each other or in combination with any of the other references now of record.

The present invention as recited in the claims is directed to a storage system capable of transmitting data stored in a first storage control device to a third storage control device via a second storage control device, wherein the second storage control device includes: a first virtual volume which is associated with a real volume and forms a pair with a copy source volume of the first storage control device; a second virtual volume which is associated with the real volume and forms a pair with a copy destination volume of the third storage control device; a first target port having the input side thereof connected to the copy source volume and the output side thereof connected to the first virtual volume; a first initiator port having the input side thereof connected to the first virtual volume; a second target port having the input side thereof connected to the first initiator port and the output side thereof connected to the second virtual volume; a second initiator port having the input side thereof connected to the second virtual volume and the output side thereof connected to the copy destination volume; a first control program for causing the first virtual volume to operate as an auxiliary volume of the copy source volume; a second control program for reflecting storage contents of the first virtual volume in storage contents of the second virtual volume; and a third control program for causing the second virtual volume to operate as the primary volume of the copy destination volume, and wherein the real volume is mapped to the second virtual volume, and the second virtual volume is mapped to the first virtual volume.

The above described features of the present invention, particularly a first virtual volume which is associated with a real volume and forms a pair with a copy

source volume of the first storage control device; a second virtual volume which is associated with the real volume and forms a pair with a copy destination volume of the third storage control device wherein the real volume is mapped to the second virtual volume, and the second virtual volume is mapped to the first virtual volume, are not taught or suggested by any of the references of record whether taken individually or in combination with each other.

6. Fee (37 C.F.R. 1.17(i))

The fee required by 37 C.F.R. § 1.17(i) is to be paid by:

☒ the Credit Card Payment Form (attached) for \$130.00.


☐ charging Account _____ the sum of \$130.00.

A duplicate of this petition is attached.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of Mattingly, Stanger & Malur, P.C., Deposit Account No. 50-1417 (1309.43448X00).

Respectfully submitted,

MATTINGLY, STANGER & MALUR, P.C.



Frederick D. Bailey
Registration No. 42,282

FDB/sdb
Enclosures